

REMARKS

I. INTRODUCTION

Claims 1 to 14 and 16 to 26 are pending in the present application.

Reconsideration of the present application in view of this response is respectfully requested.

II. ALLOWABLE SUBJECT MATTER

Applicant notes with appreciation the indication of allowable subject matter contained in claims 6, 7, 11, 12 and 19. In this regard, the Examiner will note that each of claims 6, 7 and 11 has been rewritten herein in independent form to include all of the limitations of its respective base claim. It is therefore respectfully submitted that claims 6, 7 and 11 are in condition for immediate allowance. Claim 12 depends from claim 11, and claim 19 depends from claim 7, so therefore claims 12 and 19 are also believed to be in condition for immediate allowance.

III. OBJECTION TO THE DRAWINGS

The drawings were objected to under 37 C.F.R. § 1.83 (a) for failing to show every feature of the invention specified in the claim. In particular, the Office Action asserts that the detection unit and analyzer unit recited in claims 11 and 12 must be shown or the feature(s) canceled from the claims. In this regard, Fig. 1 has been amended to include a detection and analyzer unit as recited in claims 11 and 12. No new matter has been added. Entry and approval of amended Fig. 1 is respectfully requested. It is respectfully submitted that the drawings comply with 37 C.F.R. § 1.83 (a). Accordingly, withdrawal of the objection to the drawings is respectfully requested.

IV. OBJECTION TO CLAIM 21

Claim 21 stands objected to for certain alleged informalities. In this regard, claim 21 has been amended herein in accordance with the Examiner's suggestions. Withdrawal of the objection to claim 21 is therefore respectfully requested.

**V. REJECTION OF CLAIMS 1-5, 8-10, 13,
14, 16-18 and 20-24 UNDER 35 U.S.C. § 103(a)**

Claims 1 to 5, 8 to 10, 13, 14, 16 to 18 and 20 to 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,984,524 to Teshirogi et al. ("Teshirogi") in view of Japanese Patent No. 03211449 to Fujita ("Fujita"). It is respectfully submitted that these claims are not rendered unpatentable over Teshirogi in view of Fujita for at least the following reasons.

Claim 1 relates to a device for testing a material that changes shape when an electric and/or magnetic field is applied. Claim 1 recites that the device includes a generator for generating and applying the electric and/or magnetic field to the material, at least one thermal sensor for detecting a change in temperature of the material associated with the electric and/or magnetic field, and a measurement unit for measuring a change in shape of the material after the electric and/or magnetic field is applied.

Teshirogi purports to relate to an apparatus and method for quantitatively measuring a temperature influence on a product when some temperature stress is applied to the product. See Teshirogi, col. 1, lines 6 to 10. The apparatus referred to by Teshirogi includes a heating unit 32, a thermal sensor 38 and a measuring unit 35 for measuring the change in shape of the material after heating. See Teshirogi, FIG. 4 and related text. In this regard, it is respectfully submitted that the apparatus referred to by Teshirogi does not include a generator for generating and applying an electric and/or magnetic field to a material that changes shape when an electric and/or magnetic field is applied, as recited by claim 1. Indeed, the Office Action admits that Teshirogi does not disclose these features of claim 1. Instead, the Office Action asserts that Fujita discloses a device for testing a material that changes shape when it is heated, the device including a generator for generating an electric current and applying the current to the material to heat the material and produce a change in shape of the material, and a measurement unit for measuring the change in shape of the material after the current is applied, and that it would have been obvious to one having ordinary skill in the art at the time the present invention was made to modify the device of Teshirogi by adding a generator for applying a current to a material via contacts, as taught by Fujita, in order to determine how the material will change shape when heated during regular use. In this regard, however, it is respectfully submitted that Fujita merely refers to common resistance heating, which is entirely different from a device as recited in claim 1. In particular, applying a current to a material as referred to by Fujita, is entirely different from a device as recited in claim 1 based on the piezoelectric effect, in which an electric and/or

magnetic field is applied without any current running at all through the material. Hence, Fujita, like Teshirogi, also does not disclose all of the features of claim 1. More specifically, Teshirogi and Fujita, either alone or combined, do not disclose a generator for generating an electric or magnetic field but instead merely refer to a device that generates electric current. Also, Teshirogi and Fujita, either alone or combined, do not disclose a device for testing a material that changes shape when an electric or magnetic field is applied but instead merely refer to devices that measure a change in shape when the material is heated. Moreover, Teshirogi and Fujita, either alone or combined, in no way disclose a piezoelectric material.

In rejecting a claim under 35 U.S.C. § 103(a), the Examiner bears the initial burden of presenting a prima facie case of obviousness. In re Rijckaert, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993). To establish prima facie obviousness, three criteria must be satisfied. First, there must be some suggestion or motivation to modify or combine reference teachings. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). This teaching or suggestion to make the claimed combination must be found in the prior art and not based on the application disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Second, there must be a reasonable expectation of success. In re Merck & Co., Inc., 800 F.2d 1091, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Third, the prior art reference(s) must teach or suggest all of the claim limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974).

As indicated above, the combination of Teshigori and Fajita fails to disclose all of the limitations of amended claim 1, in particular, a generator for generating and applying an electric or magnetic field to a material that changes shape when an electric or magnetic field is applied. Accordingly, for at least this reason, claim 1 is not rendered obvious by their combination.

Claims 2 to 5, 8 to 10, 13, 14, 16 to 18, 20 to 21, 23 and 24 ultimately depend from claim 1 and therefore include all of the limitations of claim 1. Claim 20 recites features analogous to claim 1. Accordingly, claims 2 to 5, 8 to 10, 13, 14, 16 to 18 and 20 to 24 are likewise not rendered obvious for at least the same reasons that claim 1 is not rendered obvious.

Moreover, it is respectfully submitted that a *prima facie* case of obviousness has not been made in the present case, since the Office Action never made any findings, such as, for example, regarding what the ordinary skill level in the art would have been at the time the claimed subject matter of the present application was made. (See In re Rouffet, 47 U.S.P.Q.2d 1453, 1455 (Fed. Cir. 1998) (the “factual predicates underlying” a *prima facie*

“obviousness determination include the scope and content of the prior art, the differences between the prior art and the claimed invention, and the level of ordinary skill in the art”)). It is respectfully submitted that the proper test for showing obviousness is what the “combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art,” and that the Patent Office must provide particular findings in this regard — the evidence for which does not include “broad conclusory statements standing alone.” (See In re Kotzab, 55 U.S.P.Q. 2d 1313, 1317 (Fed. Cir. 2000) (citing In re Dembiczak, 50 U.S.P.Q.2d 1614, 1618 (Fed. Cir. 1999) (obviousness rejections reversed where no findings were made “concerning the identification of the relevant art,” the “level of ordinary skill in the art” or “the nature of the problem to be solved”))). It is again respectfully submitted that there has been no such showing by the Office Action.

In fact, it is respectfully submitted that the lack of any of the required factual findings in the Office Action forces Applicant to resort to unwarranted speculation to ascertain exactly what facts underlie the present rejections. The law requires that the Patent Office provide the factual basis for rejecting a patent application under 35 U.S.C. § 103. (See In re Piasecki, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984) (citing In re Warner, 379 F.2d 1011, 1016, 154 U.S.P.Q. 173, 177 (C.C.P.A. 1967))). In short, the Office has failed to carry the initial burden of presenting a proper prima facie case of obviousness. (See In re Oetiker, 977 F.2d 1443, 1445, 24, U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)).

In view of the foregoing, it is respectfully submitted that Teshirogi in view of the Fujita does not render obvious any of claims 1 to 5, 8 to 10, 13, 14, 16 to 18 and 20 to 24. Withdrawal of the rejection of claims 1 to 5, 8 to 10, 13, 14, 16 to 18 and 20 to 24 under 35 U.S.C. § 103 over Teshirogi in view of the Fujita is, therefore, respectfully requested.

VI. REJECTION OF CLAIM 25 UNDER 35 U.S.C. § 103(a)

Claim 25 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Teshirogi and Fujita in view of U.S. Patent No. 5,672,848 to Komorita et al. (“Komorita”). Claim 25 ultimately depends from claim 1, and is therefore allowable for at least the same reasons as claim 1, since the secondary reference Komorita does not cure the critical deficiencies of the primary references Teshirogi and Fujita, as explained above. Indeed, the Office Action does not allege that it does. Withdrawal of this rejection is therefore respectfully requested.

VII. REJECTION OF CLAIM 26 UNDER 35 U.S.C. § 103(a)

Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Teshirogi and Fujita in view of U.S. Patent No. 5,196,377 to Wagner ("Wagner"). Claim 26 ultimately depends from claim 1, and is therefore allowable for at least the same reasons as claim 1, since the secondary reference Wagner does not cure the critical deficiencies of the primary references Teshirogi and Fujita, as explained above. Indeed, the Office Action does not allege that it does. Withdrawal of this rejection is therefore respectfully requested.

CONCLUSION

It is respectfully submitted that all pending claims are in condition for allowance. Passage to issuance is, therefore, requested.

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AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Fig. 1. In particular, Fig. 1 has been amended to include a detection unit and analyzer unit as recited in claims 11 and 12.